

Release notes for ENDF/B Development n-050_Sn_126
evaluation

ENDF
B-VII.dev

April 26, 2017

- checkr Warnings:

1. A previous error halted parsing of the current section
MAT=5067, MF= 1, MT=451 (1): Parsing stopped

```
ERROR(S) FOUND IN MAT=5067, MF= 1, MT=451
SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      205 TO      245
```

- checkr Errors:

1. A variable is outside the allowed ENDF range
MAT=5067, MF= 1, MT=451 (0): Variable range

```
ERROR(S) FOUND IN MAT=5067, MF= 1, MT=451
MOD =      1 OUT OF RANGE      0 -      0      RECORD NUMBER      205
```

2. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5067, MF= 2, MT=151 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5067, MF= 2, MT=151
SECTION 2/151 NOT IN DIRECTORY      RECORD NUMBER      247
```

3. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5067, MF= 3, MT= 1 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5067, MF= 3, MT= 1
SECTION 3/ 1 NOT IN DIRECTORY      RECORD NUMBER      351
```

4. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5067, MF= 3, MT= 2 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5067, MF= 3, MT= 2
SECTION 3/ 2 NOT IN DIRECTORY      RECORD NUMBER      387
```

5. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5067, MF= 3, MT= 4 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5067, MF= 3, MT= 4
SECTION 3/ 4 NOT IN DIRECTORY      RECORD NUMBER      415
```

6. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5067, MF= 3, MT= 16 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=5067, MF= 3, MT= 16
SECTION 3/ 16 NOT IN DIRECTORY      RECORD NUMBER      428
```

7. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5067, MF= 3, MT= 17 (0): Directory (b)

ERROR(S) FOUND IN MAT=5067, MF= 3, MT= 17
SECTION 3/ 17 NOT IN DIRECTORY RECORD NUMBER 440

8. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5067, MF= 3, MT= 22 (0): Directory (b)

ERROR(S) FOUND IN MAT=5067, MF= 3, MT= 22
SECTION 3/ 22 NOT IN DIRECTORY RECORD NUMBER 448

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5067, MF= 3, MT= 28 (0): Directory (b)

ERROR(S) FOUND IN MAT=5067, MF= 3, MT= 28
SECTION 3/ 28 NOT IN DIRECTORY RECORD NUMBER 460

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5067, MF= 3, MT= 51 (0): Directory (b)

ERROR(S) FOUND IN MAT=5067, MF= 3, MT= 51
SECTION 3/ 51 NOT IN DIRECTORY RECORD NUMBER 469

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5067, MF= 3, MT= 52 (0): Directory (b)

ERROR(S) FOUND IN MAT=5067, MF= 3, MT= 52
SECTION 3/ 52 NOT IN DIRECTORY RECORD NUMBER 482

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5067, MF= 3, MT= 53 (0): Directory (b)

ERROR(S) FOUND IN MAT=5067, MF= 3, MT= 53
SECTION 3/ 53 NOT IN DIRECTORY RECORD NUMBER 493

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5067, MF= 3, MT= 54 (0): Directory (b)

ERROR(S) FOUND IN MAT=5067, MF= 3, MT= 54
SECTION 3/ 54 NOT IN DIRECTORY RECORD NUMBER 504

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5067, MF= 3, MT= 55 (0): Directory (b)

ERROR(S) FOUND IN MAT=5067, MF= 3, MT= 55
SECTION 3/ 55 NOT IN DIRECTORY RECORD NUMBER 515

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5067, MF= 3, MT= 56 (0): Directory (b)

- | | |
|---|-------------------|
| ERROR(S) FOUND IN MAT=5067, MF= 3, MT= 56 | |
| SECTION 3/ 56 NOT IN DIRECTORY | RECORD NUMBER 525 |
16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5067, MF= 3, MT= 57 (0): Directory (b)
- | | |
|---|-------------------|
| ERROR(S) FOUND IN MAT=5067, MF= 3, MT= 57 | |
| SECTION 3/ 57 NOT IN DIRECTORY | RECORD NUMBER 535 |
17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5067, MF= 3, MT= 91 (0): Directory (b)
- | | |
|---|-------------------|
| ERROR(S) FOUND IN MAT=5067, MF= 3, MT= 91 | |
| SECTION 3/ 91 NOT IN DIRECTORY | RECORD NUMBER 545 |
18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5067, MF= 3, MT=102 (0): Directory (b)
- | | |
|---|-------------------|
| ERROR(S) FOUND IN MAT=5067, MF= 3, MT=102 | |
| SECTION 3/102 NOT IN DIRECTORY | RECORD NUMBER 554 |
19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5067, MF= 3, MT=103 (0): Directory (b)
- | | |
|---|-------------------|
| ERROR(S) FOUND IN MAT=5067, MF= 3, MT=103 | |
| SECTION 3/103 NOT IN DIRECTORY | RECORD NUMBER 576 |
20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5067, MF= 3, MT=104 (0): Directory (b)
- | | |
|---|-------------------|
| ERROR(S) FOUND IN MAT=5067, MF= 3, MT=104 | |
| SECTION 3/104 NOT IN DIRECTORY | RECORD NUMBER 589 |
21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5067, MF= 3, MT=105 (0): Directory (b)
- | | |
|---|-------------------|
| ERROR(S) FOUND IN MAT=5067, MF= 3, MT=105 | |
| SECTION 3/105 NOT IN DIRECTORY | RECORD NUMBER 600 |
22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5067, MF= 3, MT=107 (0): Directory (b)
- | | |
|---|-------------------|
| ERROR(S) FOUND IN MAT=5067, MF= 3, MT=107 | |
| SECTION 3/107 NOT IN DIRECTORY | RECORD NUMBER 610 |
23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5067, MF= 4, MT= 2 (0): Directory (b)

- | | | |
|--|--|-------------------|
| | ERROR(S) FOUND IN MAT=5067, MF= 4, MT= 2 | |
| | SECTION 4/ 2 NOT IN DIRECTORY | RECORD NUMBER 626 |
24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5067, MF= 4, MT= 16 (0): Directory (b)
- | | | |
|--|---|-------------------|
| | ERROR(S) FOUND IN MAT=5067, MF= 4, MT= 16 | |
| | SECTION 4/ 16 NOT IN DIRECTORY | RECORD NUMBER 790 |
25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5067, MF= 4, MT= 17 (0): Directory (b)
- | | | |
|--|---|-------------------|
| | ERROR(S) FOUND IN MAT=5067, MF= 4, MT= 17 | |
| | SECTION 4/ 17 NOT IN DIRECTORY | RECORD NUMBER 801 |
26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5067, MF= 4, MT= 22 (0): Directory (b)
- | | | |
|--|---|-------------------|
| | ERROR(S) FOUND IN MAT=5067, MF= 4, MT= 22 | |
| | SECTION 4/ 22 NOT IN DIRECTORY | RECORD NUMBER 812 |
27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5067, MF= 4, MT= 28 (0): Directory (b)
- | | | |
|--|---|-------------------|
| | ERROR(S) FOUND IN MAT=5067, MF= 4, MT= 28 | |
| | SECTION 4/ 28 NOT IN DIRECTORY | RECORD NUMBER 823 |
28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5067, MF= 4, MT= 51 (0): Directory (b)
- | | | |
|--|---|-------------------|
| | ERROR(S) FOUND IN MAT=5067, MF= 4, MT= 51 | |
| | SECTION 4/ 51 NOT IN DIRECTORY | RECORD NUMBER 834 |
29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5067, MF= 4, MT= 52 (0): Directory (b)
- | | | |
|--|---|-------------------|
| | ERROR(S) FOUND IN MAT=5067, MF= 4, MT= 52 | |
| | SECTION 4/ 52 NOT IN DIRECTORY | RECORD NUMBER 857 |
30. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5067, MF= 4, MT= 53 (0): Directory (b)
- | | | |
|--|---|-------------------|
| | ERROR(S) FOUND IN MAT=5067, MF= 4, MT= 53 | |
| | SECTION 4/ 53 NOT IN DIRECTORY | RECORD NUMBER 880 |
31. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5067, MF= 4, MT= 54 (0): Directory (b)

- | | | |
|---|---------------|-----|
| ERROR(S) FOUND IN MAT=5067, MF= 4, MT= 54 | RECORD NUMBER | 903 |
| SECTION 4/ 54 NOT IN DIRECTORY | | |
32. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5067, MF= 4, MT= 55 (0): Directory (b)
- | | | |
|---|---------------|-----|
| ERROR(S) FOUND IN MAT=5067, MF= 4, MT= 55 | RECORD NUMBER | 926 |
| SECTION 4/ 55 NOT IN DIRECTORY | | |
33. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5067, MF= 4, MT= 56 (0): Directory (b)
- | | | |
|---|---------------|-----|
| ERROR(S) FOUND IN MAT=5067, MF= 4, MT= 56 | RECORD NUMBER | 949 |
| SECTION 4/ 56 NOT IN DIRECTORY | | |
34. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5067, MF= 4, MT= 57 (0): Directory (b)
- | | | |
|---|---------------|-----|
| ERROR(S) FOUND IN MAT=5067, MF= 4, MT= 57 | RECORD NUMBER | 972 |
| SECTION 4/ 57 NOT IN DIRECTORY | | |
35. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5067, MF= 4, MT= 91 (0): Directory (b)
- | | | |
|---|---------------|-----|
| ERROR(S) FOUND IN MAT=5067, MF= 4, MT= 91 | RECORD NUMBER | 995 |
| SECTION 4/ 91 NOT IN DIRECTORY | | |
36. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5067, MF= 5, MT= 16 (0): Directory (b)
- | | | |
|---|---------------|------|
| ERROR(S) FOUND IN MAT=5067, MF= 5, MT= 16 | RECORD NUMBER | 1019 |
| SECTION 5/ 16 NOT IN DIRECTORY | | |
37. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5067, MF= 5, MT= 17 (0): Directory (b)
- | | | |
|---|---------------|------|
| ERROR(S) FOUND IN MAT=5067, MF= 5, MT= 17 | RECORD NUMBER | 1080 |
| SECTION 5/ 17 NOT IN DIRECTORY | | |
38. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5067, MF= 5, MT= 22 (0): Directory (b)
- | | | |
|---|---------------|------|
| ERROR(S) FOUND IN MAT=5067, MF= 5, MT= 22 | RECORD NUMBER | 1117 |
| SECTION 5/ 22 NOT IN DIRECTORY | | |
39. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=5067, MF= 5, MT= 28 (0): Directory (b)

ERROR(S) FOUND IN MAT=5067, MF= 5, MT= 28

SECTION 5/ 28 NOT IN DIRECTORY

RECORD NUMBER 1239

40. Missing a section in directory so your directory is messed up. This error will break everything else

MAT=5067, MF= 5, MT= 91 (0): Directory (b)

ERROR(S) FOUND IN MAT=5067, MF= 5, MT= 91

SECTION 5/ 91 NOT IN DIRECTORY

RECORD NUMBER 1286

- recent Warnings:

1. Fission widths given for non-fissile nucleus, but are zero

0: Fission?

Calculate Cross Sections from Resonance Parameters (RECENT 2015-1)

=====

Retrieval Criteria-----

MAT

File 2 Mimimum Cross Section- 1.0000E-10 (Standard Option)

Reactions with No Background- Output (Resonance Contribution)

... [278 more lines]

- fudge-4.0 Warnings:

1. Cross section does not match sum of linked reaction cross sections

crossSectionSum label 0: total (Error # 0): CS Sum.

WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 1.19%

- fudge-4.0 Errors:

1. Calculated and tabulated Q values disagree.

reaction label 9: n[multiplicity:'2'] + Sn125 (Error # 0): Q mismatch

WARNING: Calculated and tabulated Q-values disagree: -8236520.542999268 eV vs -8198090. eV!

2. Calculated and tabulated Q values disagree.

reaction label 10: n[multiplicity:'3'] + Sn124 (Error # 0): Q mismatch

WARNING: Calculated and tabulated Q-values disagree: -13969621.17707825 eV vs -1.39362e7 eV!

3. Calculated and tabulated Q values disagree.

reaction label 11: n + H1 + In125 (Error # 0): Q mismatch

WARNING: Calculated and tabulated Q-values disagree: -12872174.56323242 eV vs -1.28176e7 eV!

4. Calculated and tabulated Q values disagree.

reaction label 12: Sn127 + gamma (Error # 0): Q mismatch

WARNING: Calculated and tabulated Q-values disagree: 5506679.731796265 eV vs 5647390. eV!

5. Calculated and tabulated Q values disagree.

reaction label 13: n + He4 + Cd122 (Error # 0): Q mismatch

WARNING: Calculated and tabulated Q-values disagree: -7758333.798416138 eV vs -7696490. eV!

6. Calculated and tabulated Q values disagree.
reaction label 14: H1 + In126_s (Error # 0): Q mismatch

WARNING: Calculated and tabulated Q-values disagree: -7467975.162200928 eV vs -7341510. eV!

7. Calculated and tabulated Q values disagree.
reaction label 15: H2 + In125_s (Error # 0): Q mismatch

WARNING: Calculated and tabulated Q-values disagree: -10647608.46229553 eV vs -1.05075e7 eV!

8. Calculated and tabulated Q values disagree.
reaction label 16: H3 + In124_s (Error # 0): Q mismatch

WARNING: Calculated and tabulated Q-values disagree: -12065475.43780518 eV vs -1.17985e7 eV!

9. Calculated and tabulated Q values disagree.
reaction label 17: He4 + Cd123_s (Error # 0): Q mismatch

WARNING: Calculated and tabulated Q-values disagree: -3106127.678527832 eV vs -2787030. eV!

- njoy2012 Warnings:

1. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!
group...compute self-shielded group-averaged cross-sections (0): GROUPR/conver (0)

---message from conver---cannot do complete particle production for mt= 16
only mf4/mf5 provided

2. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!
group...compute self-shielded group-averaged cross-sections (1): GROUPR/conver (0)

---message from conver---cannot do complete particle production for mt= 17
only mf4/mf5 provided

3. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!
group...compute self-shielded group-averaged cross-sections (2): GROUPR/conver (0)

---message from conver---cannot do complete particle production for mt= 22
only mf4/mf5 provided

4. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!
group...compute self-shielded group-averaged cross-sections (3): GROUPR/conver (0)

---message from conver---cannot do complete particle production for mt= 28
only mf4/mf5 provided

5. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!
grouppr...compute self-shielded group-averaged cross-sections (4): GROUPR/conver (0)

---message from conver---cannot do complete particle production for mt= 91
only mf4/mf5 provided